CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 88-075

WASTE DISCHARGE REQUIREMENTS FOR:

U. S. DEPARTMENT OF ENERGY,
and
LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE
ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. Lawrence Livermore National Laboratories (LLNL), operates a research facility under contractual agreements with the U. S. Department of Energy (DOE). Discharge is proposed to be made under this Order onto adjoining DOE real property. Lawrence Livermore National Laboratory and the U. S. Department of Energy are hereinafter both referred to as dischargers. For the purposes of this Order, DOE will be responsible for compliance in the event that LLNL fails to comply with the requirements of this Order.

2. The dischargers propose to discharge extracted and treated ground water to land as part of a pilot study extraction test. The pilot test and proposed discharge are described in the dischargers' technical report entitled "Proposal for Pilot Ground Water Extraction and Treatment West of LLNL", submitted December 24, 1987, and in the application for NPDES Permit No. CA0029289, dated August 3, 1987.

3. The pilot study extraction test is intended to develop design criteria for preparation of proposed remedial alternatives under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 1980) and the Superfund Amendments and Reauthorization Act (SARA, 1986). This pilot study will include the construction and testing of three treatment systems, each receiving influent from one to three extraction wells, and is proposed to occur through May 1, 1990. Two of the treatment systems will discharge treated waste ground water to existing surface drainage systems and are covered under NPDES Permit No. CA0029289. The third treatment system (Treatment System A) will discharge treated waste ground water to the ground at locations not covered under the NPDES permit.

4. This Order will allow discharge of treated waste ground water from Treatment System A to be discharged: to a percolation pond (on adjoining DOE property) located approximately 4000 feet southeast of LLNL's southwest site boundary corner by pipeline from Treatment System A; to land south of LLNL's property boundary (adjoining DOE property) by general areal irrigation; or to LLNL site property grounds vegetation by irrigation. One or a combination of these proposed discharge methods will be used by LLNL to dispose of extracted and treated ground water. Treatment System A will receive influent from two or three new extraction wells for a total flow of up to 144,000 gallons per day.

5. Soil and ground water beneath the LLNL site, and offsite to the southwest, have been found to be polluted halogenated organic compounds, primarily solvents such as trichloro-ethylene and tetrachloroethylene, and petroluem hydrocarbons. Suspected releases have occurred from onsite landfills, storage facility spillage, underground tank and pipeline leakage, and past discharges to the site storm drain system.

6. Hydrogeologic investigation of the site and offsite soil and ground water pollution continues, under CERCLA/SARA regulations, in order to determine the full extent of pollution and the extent and migration characteristics of existing contaminant plumes.

7. Proposed treatment of polluted ground water extracted as part of the pilot extraction test study will be by air stripping prior to discharge to the ground defined in Finding 4. Treatment of the extracted ground water will meet the effluent limitations as set forth in this Order.

8. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and discharge prohibitions for the Livermore-Amador valley and all of its subbasins.

9. The existing and potential beneficial uses for surface waters in the Livermore-Amador ground water basin including Arroyo Mocho, Arroyo Seco, Arroyo Las Positas, Arroyo de la Laguna and their tributaries are:

    a. contact and non-contact water recreation,
    b. wildlife habitat,
    c. ground water recharge, and
    d. fish migration and spawning.

10. The existing and potential beneficial uses of the ground waters underlying the Livermore-Amador ground water basin and its subbasins are:

    a. municipal and domestic supply,
    b. industrial supply,
    c. industrial service supply, and
    d. agricultural supply.

11. The LLNL site is located in the eastern portion of the Livermore-Amador ground water basin, in the Spring and Mocho I subbasins. This part of the Livermore-Amador ground water basin is documented as a ground water recharge area in the Basin Plan and in technical reports submitted by the dischargers. One goal of these Waste Discharge Requirements is to restore extracted and treated waste ground water to the Spring and Mocho I ground water aquifers. The effluent limits of this Order are not expected to adversely impact the ground water in the Spring and Mocho I subbasins.

12. The project constitutes a minor modification to land and such activity is thereby exempt from the provisions of the California Environmental Quality Act in accordance with Section 15304, Title 14, of the California Administrative Code.

13. The dischargers and interested persons have been notified of the Board's intent to issue waste discharge requirements for the proposed discharge and have been provided with the opportunity for a public hearing and to submit their written comments and recommendations.

14. The Board, at a properly-noticed public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, that the dischargers shall comply with the following:

A. PROHIBITIONS

1. The treatment, storage and discharge of treated waste ground water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. There shall be no bypass or overflow of untreated or inadequately treated waste ground water to waters of the State from the dischargers' wastewater collection, treatment or distribution facilities.

3. No waste ground water shall be allowed to escape from the designated disposal areas as either surface flow or as airborne spray.

4. The discharge of waste other than treated waste ground water, as defined in this Order, is prohibited.

5. The discharge of waste ground water to disposal areas other than those stipulated in this Order is prohibited.

6. For treated waste ground water discharged to a percolation pond:

   a. A minimum of 2 feet of freeboard shall be maintained in the pond at all times to prevent the threat of overflow.

   b. The pond shall be adequately protected from erosion and washout which may result from a rainfall event having a predicted frequency of once in 100 years.

7. For treated waste ground water discharged to the land by irrigation:

   a. No waste ground water shall be applied to the irrigation area during prolonged periods of rainfall or when soils are saturated.

8. For treated waste ground water discharged to LLNL site vegetation by irrigation:

   a. The public shall be effectively excluded from the irrigation disposal area by irrigation at night or early morning when wind velocity is minimal.

   b. The public shall be notified of the use of treated waste ground water through use of warning signs or similar to comply with this requirement.

   c. No waste ground water shall be applied to the irrigation areas during prolonged periods of rainfall or when soils are saturated.

9. Discharge of waste ground water in any of the disposal areas shall cease immediately when any prohibition or specification is violated.

B. Discharge Specifications

1. The discharge of waste ground water shall not degrade the quality of any ground water suitable for domestic use or cause an increase in any quality parameter that would make ground water unsuitable for irrigation use.

2. The waste ground water shall at all times meet the following quality limits prior to disposal:

Constituent	Units	Instantaneous Maximum
Metals		
Antimony	mg/l	1.46
Arsenic	ug/l	500
Beryllium	ug/l	0.68
Boron	mg/l	7
Cadmium	ug/l	100
Chromium +3	mg/l	1700
Chromium +6	ug/l	500
Copper	mg/l	2
Iron	mg/l	3
Lead	ug/l	500
Manganese	ug/l	500
Mercury	ug/l	20
Nickel	ug/l	134
Selenium	ug/l	100
Silver	ug/l	500
Thallium	ug/l	130
Zinc	mg/l	20
Volatile Organic Compounds		
Total Volatile Organic Compounds	ug/l	5

Total Volatile Organic Compounds include, but are not limited to:

Benzene, Bromoform, Carbon Tetrachloride, Chlorobenzene, Chlorodibromomethane, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-Dichloropropane, Ethyl Benzene, Tetrachloroethylene, Toluene, trans-1,2-Dichloroethylene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Trichlorofluoromethane, Xylene(s), Vinyl Chloride

Acid Extractable Organic Compounds		
2,4-Dimethylphenol	ug/l	400
Phenol	ug/l	5
2,4,6-Trichlorophenol	ug/l	5

Base/Nuetral Extractable Organic Compounds		
1,4-Dichlorobenzene	ug/l	5
Napthalene	ug/l	620
Phenanthrene	ug/l	5
Pyrene	ug/l	5

C. Provisions

1. The dischargers shall comply with all sections of this Order immediately upon adoption.

2. The dischargers shall comply with a Self-Monitoring Program as ordered by the Executive Officer.

3. The dischargers shall permit the Board or its authorized representatives in accordance with California Water Code Section 13267(c):

   a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

   b. Access at reasonable times to any records that must be kept under the conditions of this Order;

   c. Inspection at reasonable times of any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. To sample and monitor at reasonable times for the purpose of assuring compliance with this Order.

4. The dischargers shall maintain in good working order and operate, as efficiently as possible, any facility or control system installed or as modified to achieve compliance with this Order.

5. A contingency plan shall be developed outlining the actions to be taken in the event effluent quality fails to meet required standards. The plan must be submitted for review, to the satisfaction of the Executive Officer, prior to the startup of any disposal activity.

6. In the event of any change in control or ownership of land or treatment facilities presently owned or controlled by the dischargers, the dischargers shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to this Board.

7. The dischargers shall file with the Board a report of waste discharge at least 120 days before making any material change in the character, location or volume of the discharge.

8. The Board will review this Order periodically and may revise the requirements when necessary.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 18, 1988.

for ROGER B. JAMES
Executive Officer

Attachments:
A. Site Map
B. Self-Monitoring Program

File No. 2199.9026 (MDK)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

U. S. Department of Energy

and

Lawrence Livermore National Laboratory

Livermore, Alameda County

ORDER NO. 88-075

U. S. DEPARTMENT OF ENERGY
and
LAWRENCE LIVERMORE NATIONAL LABORATORY

I. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program, are:

1. To document compliance with waste discharge requirements and prohibitions established by the Regional Board.

2. To facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from discharge of waste ground water.

II. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DHS) or a laboratory waived by the Executive Officer from obtaining a certification for these analyses by the DHS. The director of the laboratory whose name appears on the certification or his/her laboratory supervisor who is directly responsible for analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure measurement accuracy.

III. DEFINITION OF TERMS

1. Grab Sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples shall be collected during normal peak loading

conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with daily maximum and instantaneous maximum limits. Grab samples represent only the conditions that exist at the time the waste water is collected.

2. Flow Sample is the accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device. In this case, a flow sample would measure the average daily flow from Treatment System A, and into each of the disposal areas.

3. Instantaneous Maximum is the highest measurement for the calendar day.

4. Site Map is a topographic-based map of suitable scale to show features of interest and allow accurate scale measurements to be made from the map.

IV. SPECIFICATIONS FOR SAMPLING AND ANALYSIS

The Dischargers are required to perform observations, sampling and analyses as stipulated in the schedules of Tables 1, 2 and 3, and in accordance with the following conditions.

1. Influent

Samples of influent shall be collected on random days at the frequency stipulated in Table 1. Samples shall not include any sidestream wastes or other influent sources not covered under this Order. Deviation from this must be approved by the Executive Officer.

2. Effluent

a. Effluent sampling shall be coincident with influent sampling according to the schedule of Table 1, unless otherwise stipulated. The Board or Executive Officer may approve an alternative sampling plan if it is demonstrated to the Board's satisfaction that expected operating conditions warrant a deviation from the standard sampling plan.

b. If any instantaneous maximum limit is exceeded, the sampling frequency shall be increased to daily until two samples collected on consecutive days show compliance with the instantaneous maximum limit.

3. Percolation Pond

a. Pond sampling shall be coincident with influent and effluent sampling unless otherwise stipulated. As in Section IV.2.a. above, an alternative plan may be approved by the Board or Executive Officer if warranted.

b. Water samples shall be taken one foot below the water surface in the pond, and no less than two feet from the bank.

c. The method of sampling shall be described in the self-monitoring report, and shall follow existing EPA or similar standards for impoundment sampling.

4. Soil Sampling

a. Soil sampling may be coincident with influent, effluent and pond sampling. Samples shall be taken at specified points in the pond bottom, irrigated field and irrigated vegetation areas to determine if any buildup of contaminants in the soil is occurring.

b. Initial soil samples shall be taken for the pond and irrigated field disposal areas, at the locations stipulated herein, upon adoption of this Order and prior to any discharge. These samples will be considered background level samples. Irrigated on site vegetation areas may be sampled initially at a time prior to first discharge of treated waste ground water.

c. The method of soil sampling shall be described in the self-monitoring report, and shall follow existing EPA or similar standards for soil sampling.

d. Soil samples shall be analyzed for all constituents represented in NPDES Permit No. CA0029289, Effluent Limitations, Section A.2.

e. Soil samples from the percolation pond shall be taken of bottom sediments and also in situ soils at discreet depths. Soil samples from irrigated areas shall also be taken from discreet depths near the ground surface and 1 to 1 1/2 feet below ground surface as described in Section V.4., below.

5. Land Observations

Observations and measurements made of site conditions at confined or unconfined waste ground water disposal areas.

For confined disposal areas, or a percolation pond:

a. Measurement of freeboard shall be made at the lowest elevation point in the dike or sidewalls confining the liquid waste ground water in the pond. There shall be a minimum of 2 feet of freeboard, or distance between the water surface and lowest elevation point in the dike/sidewalls of the pond. Freeboard shall be measured routinely on a weekly basis, and more frequently (ie., at least once daily) during periods of intense precipitation.

b. Evidence of leakage, seepage, or overflow due to erosion of confining dike or pond sidewalls, with the affected area shown on a site map with an estimate of overflow volume.

c. Presence or absence of odor, its characterization, source, and distance of travel.

d. Estimated number of waterfowl and other water-associated birds in the pond area and vicinity.

e. Estimate of volume and rate of recharge.

f. Weather conditions including average air temperature and total precipitation during the intervening time between samples to include the day of sampling.

For unconfined disposal areas, or irrigation to field or on site vegetation areas:

a. Evidence of waste water escaping the disposal area as surface runoff or spray, shown as affected area on a site map.

b. Evidence of waste water ponding and any mosquito breeding problem within irrigated area due to excessive irrigation.

c. Presence or absence of odor, its characterization, source, and distance of travel.

d. Estimate of volume and rate of recharge.

e. Weather conditions including air temperature, total precipitation during the intervening time between samples to include the day of sampling, and estimated wind direction and velocity.

f. Warning signs or notices adequately posted to inform the public of the disposal of treated waste ground water by irrigation.

V. DESCRIPTION OF SAMPLING STATIONS

Station	Description
1. Influent	
I-001	At a point in ground water extraction, collection and treatment, utilizing Treatment System A (located near MW-103), immediately prior to treatment. This is the same I-001 station under NPDES Permit No. CA0029289, therefore the NPDES sample analytical results may be reported in this self-monitoring report according to the schedule of Table 1.
2. Effluent	
E-1	At a point in the effluent conveyance line immediately prior to discharge into the percolation pond. If more than one discharge point into the pond exists, then additional effluent points will be required.
E-2	At a point in the effluent conveyance line immediately prior to discharge into the field irrigation system.
E-3	At a point in the effluent conveyance line immediately prior to discharge into the irrigation to vegetation system.
3. Percolation Pond	
C-1, C-2	At opposing points in the pond. Samples of pond water shall be taken as noted in the sampling specifications in Section IV.3. above.

4. Soil

B-1, B-2	Percolation pond bottom sediment samples taken at opposing sides or ends of the pond. Samples shall be taken of pond bottom sediments to a depth no greater than about 4 inches.
B-3, B-4	Percolation pond in situ soil samples taken at opposing sides or ends of the pond, and adjacent to sample B-1 and B-2 locations. Samples shall be taken at a discreet depth of 1 or 1 1/2 feet below the pond bottom.
B-5 to B-'N'	At points spaced equidistantly around areas of irrigation. Samples shall be be taken in sets at the same or adjacent locations, at discreet depths of about 4 inches and 1 or 1 1/2 feet for irrigated fields, and 4 inches and 1 foot for irrigated vegetation. Each sample set shall represent about 25% of the area of irrigated field, and an area greater than 1000 feet square feet for irrigated onsite vegetation.

5. Land Observations

L-1 to L-4	Located at quarter-points of the pond periphery. Observations shall be taken in accordance with Table 2.
L-5 to L-'N'	Located at points equidistant around periphery of irrigated areas. Points shall be spaced at no greater than 400 feet.

VI. RECORDS TO BE MAINTAINED

1. Written reports, calibration and maintainence records, sampling and analytical records, and other compliance records shall be maintained by the dischargers at their facility. The records shall be available at the dischargers' facility for a period equal to the length of this Order. The retention time may be extended due to unresolved litigation or by request from the Regional Board or U. S. Environmental Protection Agency, Region IX.

2. Tabulation of flow data to include total flow volume per day and minimum/maximum daily flows.

3. Tabulation of treatment system bypassing or accidental waste spills shall be maintained and for each occurrence shall include: contaminant involved; quantity; length of time; cause; spill prevention/control plan in effect; effects; corrective measures taken; agencies notified.

VII. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Report of Permit Violations
In the event the dischargers violate or threaten to violate the conditions of the waste discharge requirements, the dischargers shall notify the Regional Board office as soon as they or their agents have knowledge of the incident. Notice by telephone may be made to (415)464-1255, with a written confirmation report forwarded within 7 working days of telephone notification. The written report shall include the information stipulated in Section VI.3. above.

2. Self-Monitoring Reports

   a. Written reports shall be filed regularly for each month, and shall be submitted by the fifteenth day of the following month. The reports may be included as part of the monthly reports required under NPDES Permit No. CA0029289.

   b. Written reports shall include:

      1) Letter of Transmittal - discussions of permit violations for the past month to summarize details required in Section VI.3. above, and a of proposed corrective schedules for previous violation. The letter shall be certified as to veracity and correctness by signature of an authorized representative or responsible official of the dischargers'.

      2) Data - to include flow data, sampling methodologies, analytical results for the sampling schedule of Table 1, and observations in accordance with Tables 2 and 3. Analytical results shall be presented in tabular form by station, date and type of sample.

3) Compliance with Standard Observations - completed forms for Tables 2 and 3 shall accompany the self-monitoring report.

4) Site Map - a site map for all disposal areas shall accompany monthly reports showing locations of sample and observation stations, and any violation locations and effects.

c. Sampling Data Summary

A copy of the monthly self-monitoring report shall be submitted to the EPA's Superfund Division. Send reports to:

a) Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6000
Oakland, California 94607

b) Regional Administrator
U. S. Environmental Protection Agency
Superfund Division
215 Fremont Street
San Francisco, California 94105

3. Annual Reporting

By January 30 of each year, the dischargers shall submit, in place of the end of the year monthly report, an annual report to the Regional Board covering the previous calendar year. The report may be part of the annual report submitted in compliance with NPDES Permit No. CA0029289. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the dischargers into full compliance with the waste discharge requirements.

I Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 88-075.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the dischargers, and revisions will be ordered by the Executive Officer.

for ROGER B. JAMES
Executive Officer

Effective Date: May 18, 1988

Attachments: Disposal Area Location Map
Sample Stations For A Typical Percolation Pond
Table 1
Table 2
Table 3

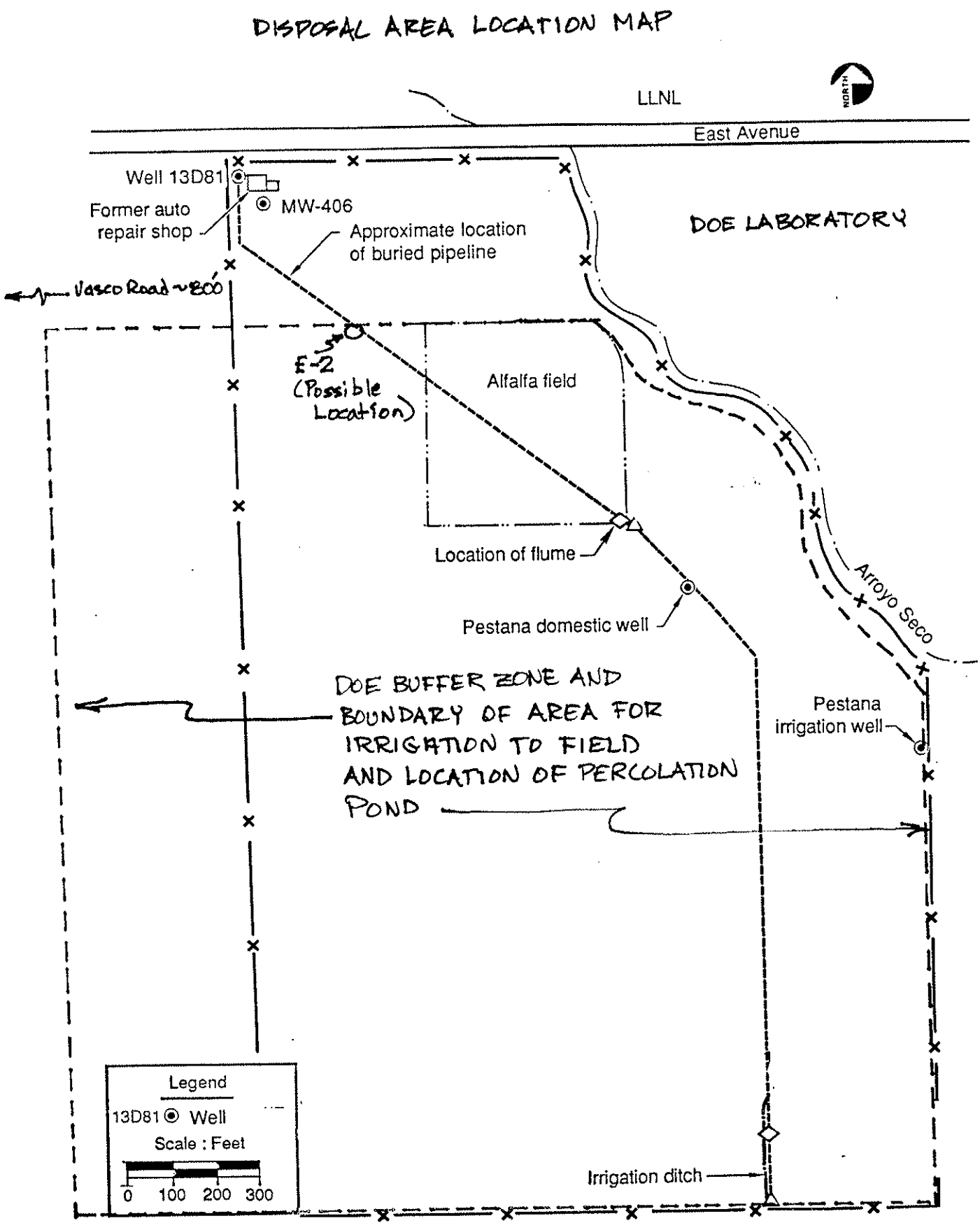

Figure 3. Former Pestana property layout.

SAMPLING STATIONS FOR TYPICAL PERCOLATION POND

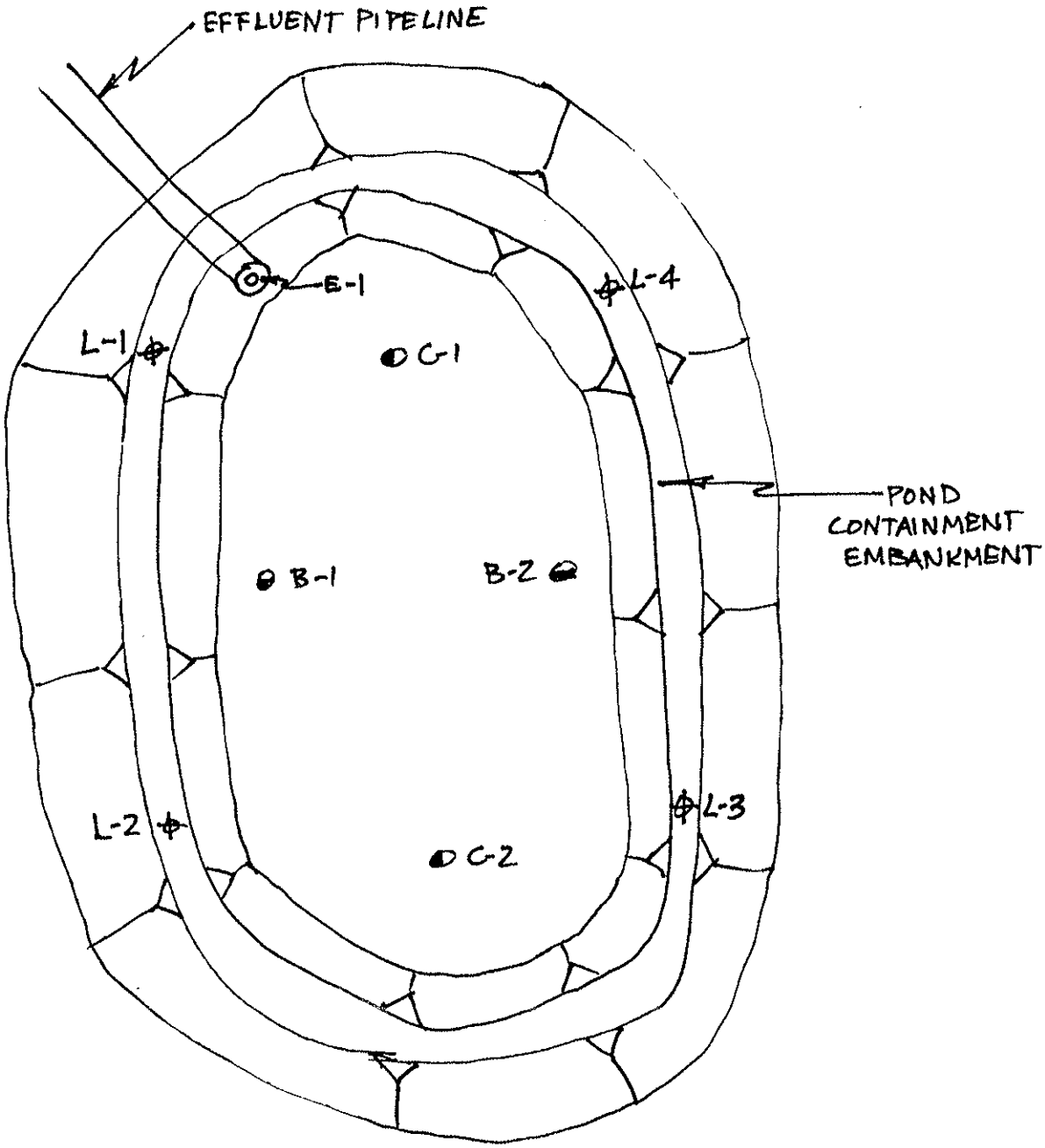

Table 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS
LAWRENCE LIVERMORE NATIONAL LABORATORY, AND
U. S. DEPARTMENT OF ENERGY

Sampling Station	I-001	E-1 to E-3	C-1, C-2	B-1, B-2	B-3, B-4	B-5 to B-N	L-1 to L-N
Sample Type	G	G	G	BS	BI	BI	O
Flow Rate (mgd)	D	D					
Fish Tox'y (1)		Q	S				
Turbidity (2)		Q					
pH, units	M	M					
Temperature, C		M					
Metals (3) mg/l, kg/day	I/S	I/S	S	B/A	B/A	B/A	
Gross alpha/ gross beta particles, tritium		I/A	S	B/A	B/A	B/A	
All Applicable Standard Observations							W
EPA 8040, ug/kg				B/A	B/A	B/A	
EPA 8240, ug/kg				B/A	B/A	B/A	
EPA 8270, ug/kg				B/A	B/A	B/A	
EPA 601 ug/l, kg/l	W/M	D/W	Q				
EPA 624 ug/l, kg/l	I/A*	I/A*	I/A*				
EPA 602 & 625 ug/l, kg/l	I/A	I/A	I/A				
Chlorides	Q	Q	Q				

Table 1 (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

LEGEND FOR TABLE 1

Types of Stations
I = influent
E = effluent
C = receiving water
L = pond embankment or irrigated area periphery
B = soil sample at pond bottom or in irrigated area

Types of Samples
G = grab
BS = soil samples of pond bottom sediments
BI = soil samples of in situ soil below pond bottom or in irrigated areas
O = observation

Frequency of Sampling
D = daily, once each day
W = weekly, once each week
M = monthly, once each month
Q = quarterly, once each March, June, September and December
S = semiannually, twice each year
B/A = one sample immediately prior to discharge,then annually
D/W = daily for the first week then weekly
W/M = weekly for the first 4 weeks, then monthly
I/A = one sample during the first week of discharge, then annually
I/S = one sample during the first week of discharge, then semiannually

Notes
(1) Fish Toxicity, 96 hours, survival in undiluted waste
(2) Jackson turbidity units
(3) Metals to include: antimony, arsenic, berrylium, boron, cadmium, chromium (total), copper, cyanide, iron, lead, manganese, mercury, nickel, selenium, silver, thallium, zinc

Table 2
LAND OBSERVATIONS AT PERCOLATION POND
DISCHARGERS' SELF-MONITORING REPORT

1. Dischargers: U. S. Department of Energy, and
Lawrence Livermore National Laboratory,

2. Reporting Period: Month_____ Year_____

3. Circle dates treated waste ground water discharged to percolation pond: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

4. Total flow volume for reporting month: _____ gallons

5. Estimated recharge: _____

6. Weather conditions: Average Air Temperature_____ Total Precip_____

7. Estimated number of waterfowl in pond vicinity: _____

8. Required weekly land observations, in feet for freeboard and 'yes' or 'no' for other observations, for weeks of reporting month:

	Weeks for Reporting Month
Date and Time	
Feet of freeboard	
Evidence for leakage or overflow	
Odor from waste water	

9. If less than 2 feet of freeboard or yes to any of above, a written report shall be submitted as per section VII.1., Self-Monitoring Program.

10. I certify that the information in this report, to the best of my knowledge, is true and correct.

Inspector
Signature_____ Date_____

Table 3
LAND OBSERVATIONS IN IRRIGATED AREAS
DISCHARGERS' SELF-MONITORING REPORT

1. Dischargers: U. S. Department of Energy, and
Lawrence Livermore National Laboratory,

2. Reporting Period: Month_____ Year_____

3. Circle dates treated waste ground water discharged to land by irrigation: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

4. Total flow volume for reporting month: _____ gallons

5. Estimated recharge:

6. Weather conditions:
Average Air Temperature_____ Total Precip_____ Wind Velocity_____

7. Required weekly land observations, as 'yes' or 'no', for weeks of reporting month:

Date and Time	Weeks for Reporting Month
Escape waste water, as surface flow or spray	
Evidence for ponding or mosquito problem	
Odor from waste water	
Warning signs posted	

8. If yes to any of above, a written report shall be submitted as per section VII.1., Self-Monitoring Program.

9. I certify that the information in this report, to the best of my knowledge, is true and correct.

Inspector
Signature_____ Date_____